

Ch 2 and 3 Cumulative Test Review

9. Expand and simplify $3x(2x - 5) - (2x + 1)^2$.

- a) $2x^2 - 4$
- b) $6x^2 - 19x + 1$
- c) $2x^2 - 11x - 14$
- d) $2x^2 - 19x - 1$

10. Identify the missing factor:

$$6x^2 - 11x - 10 = (3x + 2)\square$$

- a) $2x + 5$
- b) $2x - 5$
- c) $5x + 2$
- d) $5x - 2$

11. For the expression $kx^2 + 6x + 8$, identify the values of k that make the trinomial unfactorable.

- a) $k = 1$
- b) $k = -2$
- c) $k = 2$
- d) $k = 3$



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14. A rectangular enclosure has an area in square metres given by $A(W) = -2w^2 + 36w$, where w is the width of the rectangle in metres. Determine the width that would create a rectangular enclosure of 130 m^2 .

- a) 5 m
- b) 13 m
- c) 10 m
- d) 7 m

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14. A rectangular enclosure has an area in square metres given by $A(W) = -2w^2 + 36w$, where w is the width of the rectangle in metres. Determine the width that would create a rectangular enclosure of 130 m^2 .

- a) 5 m
- b) 13 m
- c) 10 m
- d) 7 m

$$\begin{aligned}
 A(w) &= -2w^2 + 36w \\
 130 &= -2w^2 + 36w \\
 0 &= -2w^2 + 36w - 130 \\
 0 &= -2(w^2 - 18w + 65) \quad \begin{array}{l} A \\ -13 \end{array} \begin{array}{l} w \\ 65 \end{array} \\
 0 &= -2(w^2 - 13w - 5w + 65) \quad \begin{array}{l} -13 \\ -5 \end{array} \begin{array}{l} w \\ 65 \end{array} \\
 0 &= -2[w(w-13) - 5(w-13)] \\
 0 &= -2(w-13)(w-5)
 \end{aligned}$$

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12. A model rocket is launched straight upward with an initial velocity of 22 m/s. The height of the rocket, h , in metres, can be modelled by $h(t) = -5t^2 + 22t$, where t is the elapsed time in seconds. What is the maximum height the rocket reaches?

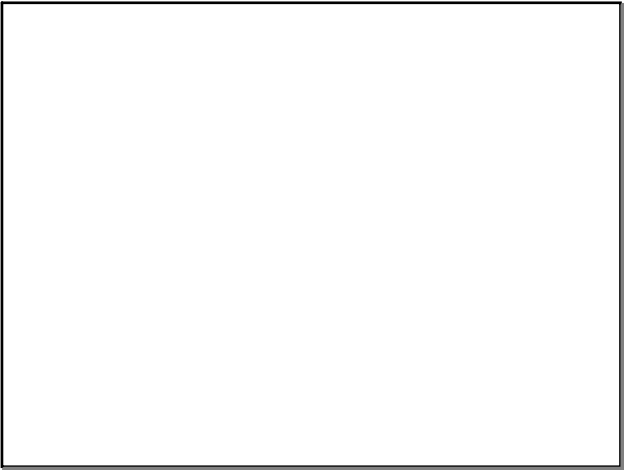
- a) 19.5 m
- b) 10.2 m
- c) 24.2 m
- d) 29.6 m

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12. A model rocket is launched straight upward with an initial velocity of 22 m/s. The height of the rocket, h , in metres, can be modelled by $h(t) = -5t^2 + 22t$, where t is the elapsed time in seconds. What is the maximum height the rocket reaches?

- a) 19.5 m
- b) 10.2 m
- c) 24.2 m
- d) 29.6 m

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